

Amendments to the claims:

This listing of claims will replace all prior versions and listings of Claims in the Application:

Listing of Claims:

- 1 1. (Currently Amended) A method of treating a pathogen within an oral cavity, the method  
2 comprising:  
3 a. testing for the presence of one or more pathogens within the oral cavity with a  
4 culture; ~~and~~  
5 b. selecting pulsed laser light with a wave length corresponding to an absorption  
6 spectrum of the pathogen; and  
7 [[b.]] c. irradiating target tissue within the oral cavity with the pulsed laser light  
8 having an energy of 10 Joules/cm<sup>2</sup> or greater per pulse.
- 1 2. (Original) The method of claim 1, wherein the pulsed laser light comprises a wavelength  
2 in a range of 580 to 1800 nanometers.
- 1 3. (Original) The method of claim 1, wherein the target tissue is selected from the group  
2 consisting of hard periodontal tissue and soft periodontal tissue.
- 1 4. (Original) The method of claim 2, wherein the target tissue corresponds to a volume of  
2 soft periodontal tissue.
- 1 5. (Previously Presented) The method of claim 4, wherein the soft periodontal tissue  
2 corresponds to soft periodontal tissue is within a periodontal pocket.
- 1 6. (Original) The method of claim 1, wherein the target tissue is irradiated with the pulsed  
2 laser light through an optical fiber.
- 1 7. (Previously Presented) The method of claim 6, wherein the optical fiber is placed within a  
2 periodontal pocket containing the target tissue.

- 1 8. (Original) The method of claim 6, wherein the optical fiber has a fiber diameter in a range  
2 of 0.05 to 3.0 mm.
- 1 9. (Original) The method of claim 1, wherein the target tissue is irradiated with a fluence of  
2 the pulsed laser light that is 350 Joule/cm<sup>2</sup> or greater.
- 1 10. (Previously Presented) The method of claim 1, wherein an area of the target tissue is  
2 irradiated with 2 Joules or more of pulsed laser light.
- 1 11. (Previously Presented) The method of claim 1, wherein an area of target tissue is  
2 irradiated with the pulsed laser light for less than 1.0 second.
- 1 12. (Previously Presented) The method of claim 3, further comprising debriding of the target  
2 tissue prior to the step of irradiating target tissue.
- 1 13. (Original) The method of claim 1, wherein the one or more pathogens include a  
2 pigmented gram (-) anaerobe.
- 1 14. (Previously Presented) The method of claim 13, wherein the pigmented gram (-) anaerobe  
2 is selected from the group consisting of *phorphyromonas gingivalis* (*Pg*) and *prevotella*  
3 *intermedia* (*Pi*).
- 1 15. (Previously Presented) The method of claim 1, wherein one or more pathogens include a  
2 pigmented fungus.
- 1 16. (Original) The method of claim 15, wherein the pigmented fungus is a fungus selected  
2 from the group consisting of *Histoplasma* and *Aspirtgillus Niger*.
- 1 17. (Original) The method of claim 1, further comprising staining a bacteria.
- 1 18. (Previously Presented) The method of claim 1, wherein a substantial portion of the one or  
2 more pathogens is eradicated.

- 1      19.    (Canceled).
- 1      20.    (Previously Presented) A method of treating a periodontal pocket, the method  
2           comprising:  
3           a.      generating a sequence of laser pulses at an absorption wavelength; and  
4           b.      directing the laser pulses to a portion of periodontal tissue outside of the  
5           periodontal pocket, wherein the laser pulses penetrate through a volume of the  
6           periodontal tissue and eradicates bacteria within the periodontal pocket.
- 1      21.    (Previously Presented) The method of claim 20, wherein the portion of periodontal tissue  
2           is selected from the group containing of dentin, cementum, bone and gum tissue.
- 1      22.    (Canceled).
- 1      23.    (Previously Presented) The method of claim 21, wherein the laser pulses penetrate  
2           through the outer portion of periodontal tissue by a distance of 1.0 mm or more.
- 1      24.    (Original) The method of claim 20, wherein the laser pulses are generated with a  
2           Nd:YAG laser.
- 1      25.    (Original) The method of claim 20, wherein the laser pluses have energy concentrations  
2           of 17 Joules/cm<sup>2</sup> per pulse or greater.
- 1      26.    (Previously Presented) The method of claim 20, wherein the laser pulses are directed to  
2           the portion of periodontal tissue from an optical fiber.
- 1      27.    (Original) The method of claim 26, wherein the optical fiber has a fiber diameter in a  
2           range of 0.5 to 3.0 mm.
- 1      28.    (Original) The method of claim 20, wherein the bacteria is a pigmented gram (-)  
2           anaerobe.

1     29.     (Previously Presented) The method of claim 20, wherein the pigmented gram (-) anaerobe  
2             is selected from the group consisting of phorphyromonas gingivalis (*Pg*), and prevotella  
3             intermedia (*Pi*) and a pigment fungi.

1     30.     (Previously Presented) The method of claim 20, wherein directing the laser pulses to the  
2             portion of periodontal tissue also eradicates a portion of a pigmented fungus within the  
3             periodontal tissue.

1     31.     (Original) The method of claim 30, wherein the pigmented fungus is a fungus selected  
2             from the group consisting of Histoplasma and Aspergillus Niger.

1     32.     (Original) The method of claim 20, further comprising applying a staining agent within  
2             the periodontal pocket, wherein the staining agent stains for the presence of living  
3             bacteria.

1     Claims 33-42 (Canceled).